



JOHN F. KENNEDY SPACE CENTER, NASA  
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DEC 7 1970

REPLY TO  
ATTN OF: AA-RQA

NOV 17 1970

TO: Distribution


FROM: Manager, Apollo-Skylab Programs, AA

SUBJECT: OMSF Apollo Program Directive No. 32D dated October 7, 1970,  
Subject: Reliability and Quality Assurance Auditing

REFERENCE: (a) Briefing Note to Dr. Debus from AA dated November  
subject: Quality and Reliability Auditing, APD No. 32D

Revised OMSF Apollo Program Directive No. 32D, Quality and Reliability Assurance Auditing dated October 7, 1970, has been received by this office for distribution and implementation. Significant changes have been summarized in reference (a).

Since none of the changes in APD 32D impact KMI 5310.1C/QA, no change in the KMI is necessary.

  
Thomas W. Morgan  
Brigadier General, USAF

Enclosure:  
(1) APD 32D

Distribution:  
STD-L-B

REFERENCE COPY

BRIEFING NOTE TO DR. DEBUS:

NOV 17 1970


SUBJECT: Quality and Reliability Assurance Auditing, APD 32D

This revision to the existing Apollo Program Directive has been reviewed and the following changes are made by the revision:

1. The list of references has been updated to reflect issuance of revised NASA Headquarters handbooks and directives.
2. Section IV.A. - The second paragraph of this section has been added to establish a minimum requirement for in-house organizations, contractors, subcontractors and suppliers manufacturing, assembling, installing, operating or servicing Apollo hardware to be audited if failure of the hardware could result in loss of life or mission.
3. Section IV.B. - The first paragraph of this section has been expanded to clarify that it is the prerogative of the organization responsible for an audit to determine the depth of the audit and to adjust the team composition and visit duration according to each situation and program phase.
4. Section IV.C. - The first paragraph of this section has been revised slightly to be compatible with the new status reporting requirements (see comment 5).
5. Section IV.D. - This section has been revised to allow Center program offices to report to the Headquarters Apollo Program Office on a quarterly instead of monthly basis. Headquarters Program Office audit reporting requirements of this section were also changed.

KSC is presently implementing APD 32C by KMI 5310.1C/QA. None of the changes reflected in APD 32D impact the KMI.

APD 32D will be given the usual limited distribution to primary and secondary organizations only.

  
Thomas W. Morgan  
Brigadier General, USAF

APOLLO PROGRAM DIRECTIVE 32D

TO: DISTRIBUTION

FROM: *Robert A. Patrone* OCT 7 1970  
APOLLO PROGRAM DIRECTOR

SUBJECT: Quality and Reliability Assurance Auditing

OFFICE OF PRIME RESPONSIBILITY: Quality and Reliability Assurance (MAR)

REFERENCES:

- (a) NHB 5300.1A, Apollo Reliability and Quality Assurance Program Plan
- (b) NHB 5300.4 (1A), Reliability Program Provisions for Aeronautical and Space System Contractors
- (c) NHB 5300.4 (1B), Quality Program Provision for Aeronautical and Space System Contractors
- (d) NPC 200-1A, Quality Assurance Provisions for Government Agencies
- (e) NHB 5300.7, Management of Government Quality Assurance Functions for Supplier Operations
- (f) NPD 5330.8A, MSF Reliability and Quality Assurance Audits

I. PURPOSE

The purpose of this Directive is to specifically identify responsibilities at all organizational levels for planning, conducting, and reporting on audits of quality and reliability program activities for all Apollo mission and ground systems and equipment. It further defines the general auditing requirements specified in references (a) through (f).

II. SCOPE

This Directive is applicable to post contract award audits conducted of all Apollo Program Offices, appropriate Government Inspection Agencies, Apollo contractors, subcontractors and suppliers.

III. RESPONSIBILITIES

All NASA Apollo Program Offices or their delegated representatives shall be responsible for the implementation of requirements established by this Directive.

IV. ACTION REQUIRED

A. Audits

R&QA audits will be conducted at the several activity levels within the Apollo Program as indicated:

1. The Apollo Program Office-Q&RA will audit all MSF Center Apollo Program Q&RA functions and activities.
2. Center Apollo Program Offices-R&QA (or responsible Center R&QA Office) will audit Center line organizations and field activities, on-site contractors, and Government Agencies delegated Apollo Q&RA responsibility.
3. Center Apollo Program Offices-R&QA (or responsible Center R&QA Office) will audit (or delegate authority to an appropriate NASA Resident Office or Government Inspection Agency to audit) Apollo Q&RA activities at contractor locations.
4. Center Apollo Program Offices shall require Apollo contractors to audit in-house Q&RA activities and those of subcontractors and suppliers.

As a minimum requirement, in-house organizations, contractors, sub-contractors and suppliers manufacturing, assembling, installing, operating or servicing Apollo hardware shall be audited if failure of that hardware could result in loss of life or mission (APD 44A Criticality Categories 1, 1S, 2A and 2B). They shall normally be audited once a year in those areas in which they are active on the program until delivery of articles and/or services required is complete. An audit shall include on-site observations of the audited organization's operation. Special reviews may be conducted at any time to investigate specific problem areas.

#### B. Audit Procedure

General guidelines for audits are contained in references (a) through (f). These procedures should be implemented as appropriate to the level and type of audit to be conducted. It is the prerogative of the organization responsible for an audit to determine the depth of the audit and to adjust the team composition and visit duration according to each situation and program phase. In those instances where a delegated agency is performing an audit for one or more other organizations, the organization(s) delegating the audit responsibility shall coordinate and approve the auditing procedures.

In order to minimize the need for duplicate audits and provide for an exchange of experience, audit team membership should include a selective combination of representatives from Headquarters/Centers/Contractors as well as the auditing agency's Quality and Reliability Assurance organization. Members should be selected on the basis of recognized responsibility and specialty, compatible with the level and type of the audit and may represent functional areas other than R&QA, as appropriate to purpose and

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scope of the survey. The auditing organization will designate a team chairman for each audit.

C. Closeouts

Auditing organizations will forward the audit report to the organization having responsibility for implementing the recommendations within fifteen (15) days after completion of the final debriefing, and in no case more than thirty (30) days following the actual auditing. The organization having responsibility for implementing recommendations shall take prompt action to effectively close out all recommendations. Effective closeout will include identification of the action taken, manner and time of implementation, and positive feedback of the completion of the action. Documented traceability will be maintained on all actions. Audit reports will be replied to by the responsible organization thirty (30) days after receipt of the report and every month thereafter until the approved closeout by the auditing organization of all recommendations. Reasons for noncompliance with recommendations will be fully explained.

Auditing organizations shall review all closeout actions and notify in writing the responsible organization within fifteen (15) days after receipt of the replies, of their approval or disapproval of the closeout action. The auditing organizations will maintain status of closeout on each audit until completely closed out.

D. Status Reports

The Center Program Offices shall submit an audit status report on the fifteenth of the month following the end of each quarter to the Apollo Program Office, attention: MAR. This report shall cover center audit activity for the preceding quarter as follows:

1. Audits conducted by the Center
2. A matrix indicating the number of both open and closed action items for each Center conducted audit that has not been fully closed out.
3. Copies of Center audit reports published.
  - a. In addition, the report shall include a schedule of audits planned to be conducted by the Center for the coming six months.

The Apollo Program Office-Q&RA will summarize and report on all auditing activity to the MSF Management Council periodically. Reporting will be in accordance with reference (f).

V. IMPLEMENTATION

The requirements of this Directive are effective immediately and the implementation shall be periodically reviewed for compliance by the Apollo Program Office.